

MULTIPLE ALLOY ROTOR AND METHOD THEREFOR

Abstract

A process for producing a rotor, the rotor formed thereby, as well as turbines in which such a rotor is installed. The rotor is formed by casting an ingot to have first and second regions formed of different alloys that intermix during casting to define a transition zone therebetween. The ingot is forged to yield a rotor forging that contains axially-aligned first and second alloy regions and a transition zone therebetween. The effects of the transition zone can be mitigated by modeling the transition zone and then off-center machining the forging so that the axis of rotation of the machined monolithic rotor is more centrally located with respect to the transition zone.